

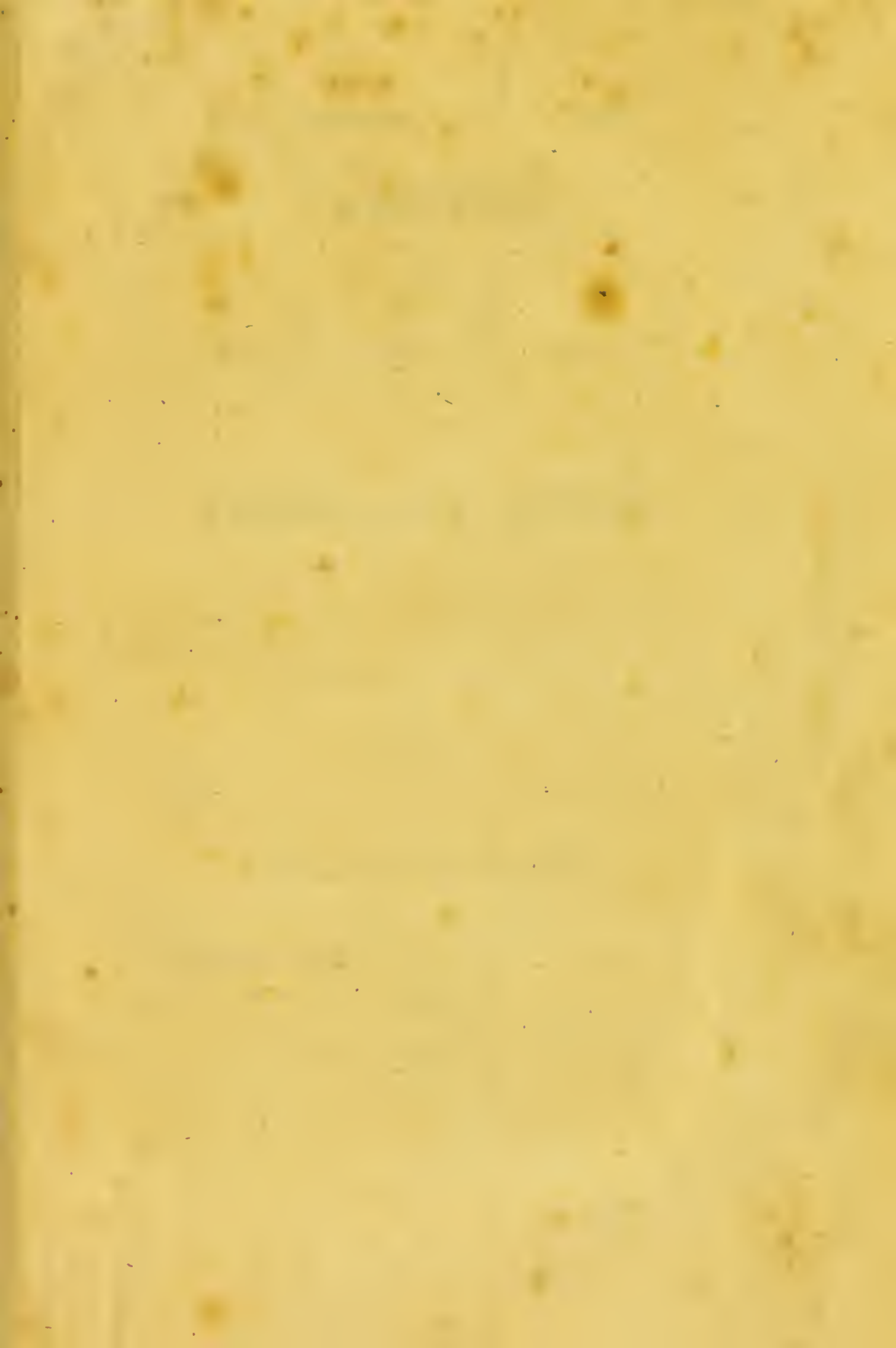
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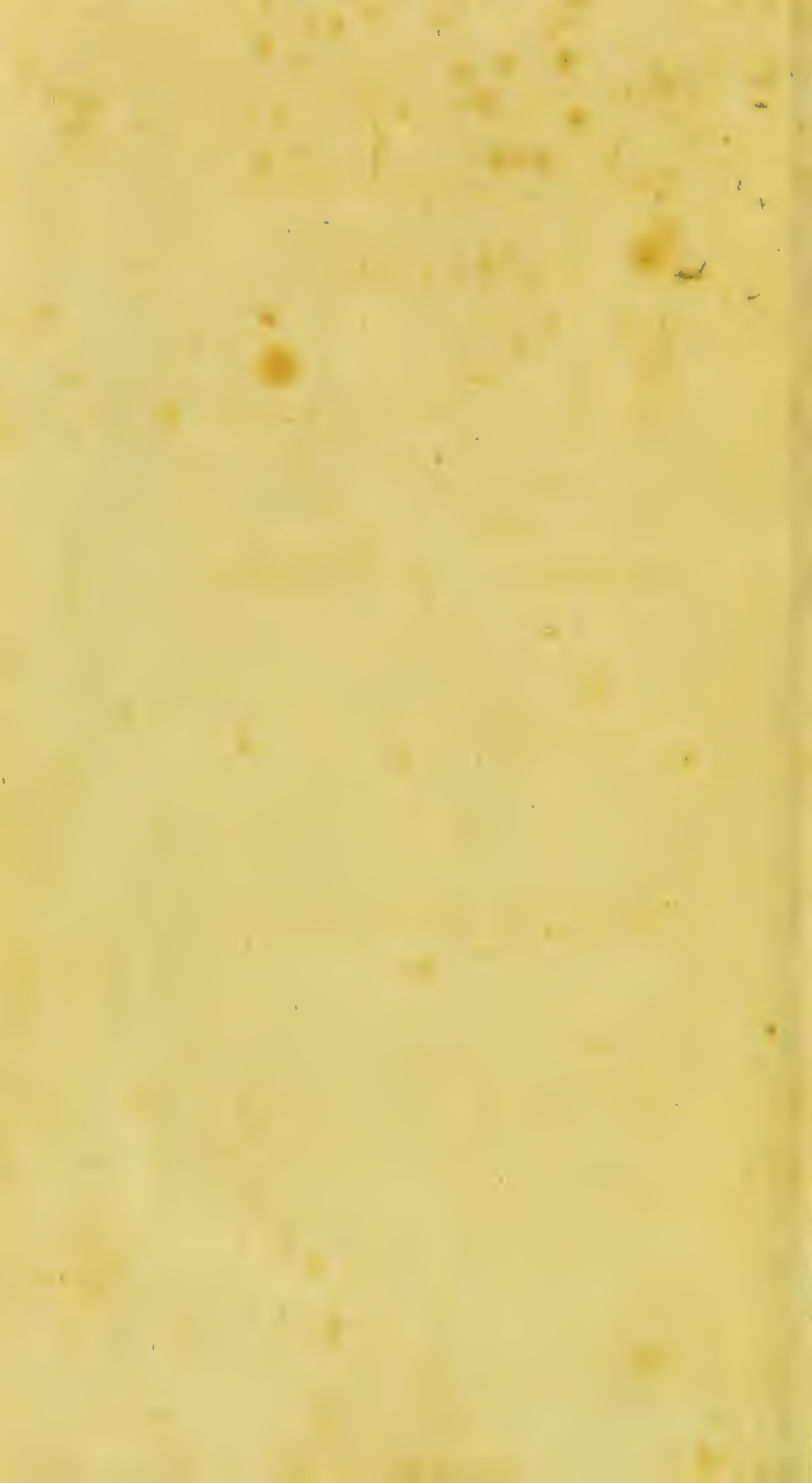
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A PRACTICAL AND DOMESTIC
TREATISE
ON THE
DISEASES AND IRREGULARITIES
OF THE
TEETH AND GUMS;
WITH THE
METHODS OF TREATMENT.

PART I.

BY MR. SIGMOND.

BATH:

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INTRODUCTION.

WHEN, in the year 1786, I commenced my practice in Devonshire, I found the management of the teeth and gums very little understood, though John Hunter had at that time called the attention of the medical world to the consideration of a subject hitherto much neglected in this country. Fortunately, its importance to individual health, comfort, and enjoyment of life, has induced men of science to consider it, and experience has enabled us to decide upon their theories.

I feel some right to give the public an account of the plan of treatment I have pursued; for the success of my unremitting

exertions to acquire a perfect knowledge of the subject, has been acknowledged by the approbation and testimonies of esteem I have obtained. My constant practice has prevented my publishing any observations, though many years since I wrote a small treatise entitled "A Short Essay on the Teeth and Gums," which was received with public approval. Since that period, I have been too much engaged ; but now, when I enjoy the leisure required for an employment of this kind, at the age of 75, as Providence gives me a share of health, I have the gratification of complying with the wishes of many of those friends, whose unvarying kindness has been a stimulus to my exertions, and whose praise will be the reward, I hope, of my labour.

I have noticed that the great part of the diseases and deformities of the teeth, which, at all stages of life, are constant sources of excruciating pain and misery,

owe their principal origin to the want of proper attention and management in infancy and childhood. At this time it is, that the foundation of evil is laid, and much future pain and discomfort may be prevented; beauty considerably increased, and the defects of articulation easily removed by proper attention.

As parents and nurses are at this time the guardians of health, I consider it right they should be made acquainted with such general rules as may enable them, in the early stages of disease, to prevent its progress; or, at any rate, to give them a knowledge of the time when it is of importance to have recourse to the skill and talent of the more scientific operator. I have, therefore, written my Treatise that it might be understood by all; have avoided the use of technical terms and anatomical descriptions. It has been my aim to make it a Domestic Manual, to which to refer

in moments of doubt and of pain ; and if its success is commensurate with my anxious wishes for the benefit of those for whom it is intended, I shall feel that my labours are productive of that good which should be the end and aim of every member of society.

A TREATISE &c.

CHAPTER I.

THE knowledge of the anatomy of the Teeth and Gums is to be acquired by diligent observation, dissection, and examination of the numerous anatomical plates which have been, within the last century, so often given to the public. Ingenious and useful are these helps to the student, and to the practitioner this knowledge is absolutely necessary. The physiology of any part of the human body is important alike to the philosopher, the medical student, and, indeed, to the citizen of the world: for, to the first, a new source of admi-

ration of the works of nature is awakened ; to the second, new paths are opened to benefit mankind ; and for the last, the sum of human misery may be decreased by the knowledge of those on whom in his hours of pain and misery he places his firm reliance. To those, however, to whom this Practical Domestic Treatise is addressed, any dissertation I could offer them would prove useless, for study and laborious thought are required ; and though the fancy and the imagination might be employed to strew the paths with flowers, I should, I fear, find few willing readers : and as for the chemical part of my subject, I must refer to Murray's admirable work on Chemistry ; to Thomson and Berzelius ; and, indeed, to any modern work upon Animal Chemistry ; for though this science has as yet lent but little aid to Dental Surgery, it is curious and interesting.

In the present treatise I have avoided all technical terms, all anatomical and physiolo-

gical description which may tend to confuse the minds of those who have little knowledge of the subject, and would only prove tedious to those who have already acquired some information. I shall merely therefore state the progress of the Teeth from their earliest appearance, and trace their various changes through the most important stages, without attempting the introduction of any scientific terms.

CHAPTER II.

SEVERAL months before birth, in each jaw bone, are small cells containing a capsule, in which is deposited a soft white matter, which is the foundation of the future tooth, and which remains under the gum till nature feels herself capable of giving nourishment to it, and protruding it: this important operation generally takes place three or four months after birth, varying according to the power which the infant may possess, from his state of health and general strength.

This process, which is seldom finished before the third year, is generally named the first dentition. The lower front teeth make their appearance first, and their immediate neighbours come up in succession; and when the operation is completed, children have in

each little jaw ten teeth, which remain tolerably quiet until the age of six or seven. The set of teeth now acquired has been termed the temporary or shedding teeth, and though some variations occur, the order of nature is followed with great regularity. I have witnessed, in the course of my practice, a few instances of children born with teeth already formed. These premature appearances are generally found in the front of the lower jaw, and remain in their different stations until the time of shedding the temporary teeth. Not long since a case of this kind occurred to me: a first-born male child brought with it into the world a tooth in the front under gum, and there was also a second tooth adjoining it, piercing its way through the tender gum, and in the space of two or three days both of these little teeth were of an equal size, and their upper edges excessively sharp. The mother was attended in her confinement by Mr. Cam, a very eminent surgeon and accoucheur of this city: he was desirous that

the lady should have the satisfaction of nursing the child, but such was the eagerness and appetite of the infant, that excessive pain was the consequence, and she found it impossible to endure the action and pressure of the teeth. Mr. Cam wished to have my opinion; and upon examination I found the most judicious plan would be to extract the teeth, in which opinion Mr. Cam coincided. It was thought right to keep our intended operation a secret from a naturally anxious mother, whose delicate state of health prevented our communicating with her. I extracted the two teeth, and had afterwards the satisfaction of hearing that both mother and infant had benefited by the operation, and that no bad consequence has since resulted from it.

We find, in perusing Medical Treatises, that amid the number of diseases to which the human frame is subject from the hour of birth to three years of age, none have committed such fatal ravages as those produced

by the effort made in cutting the teeth : it is distressing indeed to find so large a number of deaths affirmed by the most eminent practitioners, and proved by the annual parochial returns. I cannot enter into the detail or enumerate the particulars of its extent ; it would be painful to the feelings of parents ; and though it might be of some service in proving the absolute necessity of constant watchfulness, of attention, and of skill, I will not dwell upon the unpleasant topic.

Many have supposed, and indeed at an early period it was the general opinion, that the powers of nature were sufficient without the aid of art, and to nurses only was committed the care of children ; who, of course, must be totally unacquainted with the tender constitution, and the treatment necessary, in critical cases, and in the many dangerous trials which at this period of life seem often to threaten its speedy termination. Often restlessness, convulsions, fever, and the hurried

pulse, indicating the approach of serious disease, are occasioned by the pressure of a young tooth finding its way to the surface of the gum; and if not instantaneously relieved, the delicate constitution is destroyed. In many cases of this kind immediate relief has been given, by lancing the surface of the gum, where a whitish circle is very plainly discernible over the approaching tooth: whenever the incision is required, the operator is most earnestly advised to have his lancets in the very finest condition; the edge of a bad lancet occasions pain, protracts the evil, and may be productive of much mischief. The operator, properly armed with the well-edged lancet, should make his incision with a gentle but firm hand in a conical direction, as it gives greater facility to the egress of the tooth, and the gum will be less liable to unite before the tooth becomes visible; and the incision should be sufficiently deep to allow its rising, without giving further pressure to the already inflamed surface.

Among many instances of the great relief afforded by lancing, which have occurred to me, I remember one particularly interesting, which it may not be unsuitable to mention. A distinguished family in Dorsetshire, who annually visit this city, had been many years my patients: the father had, about thirty years since, been under my care; had various operations performed, and several teeth successfully stopped, which remain to this period in excellent condition; and feeling anxious that the greatest attention should be paid to his children's teeth, he requested my superintendence: most of the infants of the family experienced at the time of teething much distress, and pain on the approach of almost each tooth. In the present instance, the nurse was desired every day during her walk to call at my house to have the necessary attention paid. Whenever the operation was requisite, the nurse seated herself in the position best adapted for the purpose, and waited my leisure. The very moment I made my appear-

ance, the babe, to whom it seems I became known, as the cause of feeling some pleasureable sensation, or relief from pain, opened its little mouth, and without struggling or expressing the least fear, allowed me to perform the operation, and seemed in infancy to partake the mildness and amiability which characterise this charming family.

I am not an advocate for the employment of the hard substances which are in common use, such as coral, silver, leaf cutters; for they more generally bruise the gum, and produce irritation, whilst the simple incision answers the purpose fully, and leaves no injurious effect. I am persuaded that judicious treatment, and the improvements which medical science has gained, have much diminished the mortality occasioned by teething during the last century; and the fatal train of diseases attendant on infancy is gradually becoming less. The experienced practitioner knows that convulsions, epileptic fits, high pulse, determi-

nation to the head, may be produced by simple causes, and finds a simple remedy. The diagnosis between dangerous or difficult teething, and worms, and even hydrocephalus, or water in the head, which has sometimes been mistaken for it, is now fully understood, and has gained the attention it claims. At this early period, I mean three years of age, when there are ten teeth in each jaw, and the process completed, it is time to begin to instruct children in the use of the tooth brush and cold water. About a year after the jaws have their full complement, they should begin the use of a suitable small brush to establish an early and most useful system, which must eventually prove conducive to their general health, and of infinite service in the preservation of the teeth during life.

Sometimes the shedding teeth do not become loose, in consequence of the roots not

being at all absorbed. In similar cases, the greatest caution is necessary. An instance of this kind occurred to me, where different members of the same family were affected by this peculiarity: the eldest daughter, when nearly eight years, had all her first or temporary teeth remarkably firmly rooted, without the slightest appearance of their giving way for the permanent set. I perceived several of her new teeth piercing through the gums in various directions; whilst the teeth whose place these were to have supplied, remained in their sockets. It, of course, was indispensably necessary to make room for the second, and extract the old set. In performing this operation, the firm adhesion and resistance was so formidable as to require the greatest care and caution; for the attempt to force would have quickly fractured the jawbone. I have regularly attended the two eldest of the family, and found their first teeth invariably difficult to be extracted;

but from the care and attention which was paid in proper time, they are now in a perfect state. Similar cases occur frequently in the practice of a dentist, where the greatest caution is requisite.

CHAPTER III.

On the Projection of the Under Jaw, over the outside of the upper Teeth, called commonly the Under-hung Jaw.

THE causes of this very striking deformity have not been properly demonstrated by any of the Authors on the Diseases of the Teeth; nor are there any directions given to prevent its occurrence: indeed, should the distortion have once taken place, no remedy has been offered, and the case has been always deemed hopeless. It is about the time of the completion of the first teeth that the projecting under jaw gradually begins to show itself, and shortly before the appearance of the second set from the surface of the gum. In communicating my practice to the public, I feel persuaded the simplicity of the remedy, as

well as of the cause of the disease, will enable those who may have the care of children to prevent so serious a deformity. In these cases, at the first commencement, it occurs that one or both of the first eye teeth in the under jaw grow somewhat longer than the rest, and are pointed on the top, so that, in shutting the mouth, the under jaw is prevented taking its proper direction. The child not being aware of the pernicious consequences, stretches out the lower jaw, attempts in that manner to overcome the difficulty of the free action of the teeth, and constantly is seen in the act of pushing the lower jaw outwards: this unobserved or neglected at first, grows into a determined habit, and a mischief at first easily controlled, becomes the foundation of this defect; for the jaw gradually lengthens itself out, from the articulation on each side, to relieve itself from the bad position in which it was placed, and thus the jaw becomes completely underhung.

The remedy in the very early stage of the deformity is very easy, simple, and satisfactory. Those who following, what I conceive, an indispensable line of duty, frequently have their children's teeth examined, will easily perceive if one or both of the eye teeth appear a little longer than the rest, and whether they fall in the slightest degree over the upper front teeth. Should this be the case, no time is to be lost, but with a proper file the superfluous part of the eye tooth, or any other of the under teeth, should be gradually reduced, and suitable directions given to the child to attempt to counteract the stretching of the jaw, should the habit in the least have commenced. Many cases constantly are offered to the dentist's inspection, in which it would be adviseable, should all circumstances permit, to extract the tooth, which, as it is one of the shedding kind, would be done with little pain and without any inconvenience, particularly when the tooth is loosened, and the filing less easily performed. As the upper

teeth have, when the deformity somewhat advances, a tendency inwards, it becomes necessary, by artificial means, to throw them again outwards, which may easily be effected by placing in the hands of the child a piece of hard wood about four inches in length, and a little flattened at the top, desiring the child occasionally to push against the inner surface of the upper front teeth: the piece of wood, properly applied, acts as a lever, and soon forces them into their natural situation. The prevention of mischief is thus completely obtained, and a very short time in the early stage of its appearance will completely stop the progress of this unseemly defect. One instance having occurred a few months ago, it may be interesting to mention it. A fine boy, about six years old, was brought to me by his anxious parents for my advice respecting the state of his teeth. On examining them, I found he had, as yet, not shed any of his temporary set: there were two of the under front teeth which projected in such a manner,

that, when the month was shut, two teeth in the under jaw already closed over the upper centre teeth. On a further inspection, I observed the edges of the two new teeth, which were to form part of the permanent set, had begun to pierce the gum on the inside of the projecting teeth near the tongue: I saw the necessity of immediately removing the two projecting teeth, and ordered them to be drawn as early as possible. The operation was performed, and the child neither suffered pain nor inconvenience, and thus the deformity was altogether prevented; whilst much future trouble, loss of time, and expense was avoided. Two months had elapsed when the child was again brought to me, and I then had the satisfaction to find that the two new teeth, which I had seen on the point of coming through the gum, had grown into their proper places, and assumed the ordinary appearance. I observed the two upper teeth of the second growth were rapidly approaching, and as I judged from all circumstances,

that the teeth might be crowded, and bad consequences ensue, I ordered one of the temporary front teeth to be taken out of the upper circle, by which means ample room was given for the filling up by the new comers, and a regular range of well-formed teeth were soon produced; and I have little doubt that from the care and attention this fine little boy has been paid, and the knowledge he has already acquired of the necessity of cleaning his teeth with a proper tooth-brush and cold water, he will possess fine teeth suitable to all the purposes of life.

CHAPTER IV.

Of the Second or Permanent Teeth.

AT the age of six or seven, an alteration of great importance takes place in the mouth: the fangs of the first, or temporary teeth, become gradually absorbed, and begin to loosen themselves from the surrounding gum, to make room for the new comers. This operation is gradual, slow, and generally occupies four or five years; and it happens, not unfrequently, that a child will attain the tenth or twelfth year without having completed shedding the first set. The following is the general appearance of the mouth, each tooth varying in size and figure: Four front teeth are in the upper jaw; the two which occupy the immediate centre are broad and somewhat longer than those which are placed one on each side of these front teeth.

Next are two teeth to which the name of eye teeth is commonly given, from their situation immediately in a line below the eye; next to these, we find two small double teeth on each side: and thus are formed the child's second or temporary teeth in the upper jaw, consisting of ten in number. The lower jaw presents a somewhat similar appearance, and its progress is marked by the same succession as what I have just described as occurring in the upper jaw, with the exception of the lower front teeth, which are generally the first in cutting the gums, and are more equal in their size and formation than their brethren in the upper circle: their number is precisely the same, and their time of change the same; and the number of teeth in both upper and under jaws are twenty.

CHAPTER V.

Of the first large double Teeth, destined for the Second and Permanent Set, with the Causes of their early Decay.

It is a very remarkable fact, that John Hunter, a name celebrated in the annals of Surgery for Anatomical knowledge and correct experiments, should have fallen into an error on this subject, which must inevitably lead to the most injurious practice, and has caused mistakes to operators who have placed too great a reliance on his authority. He has described in his Natural History of the Human Teeth, with the greatest inaccuracy, the change at this period, and has completely misstated the time of the appearance of the teeth: he says, "the first and second large double teeth of the permanent

set," viz. the first adult molares, "comes to perfection and cuts the gum about the twelfth year of age; the second, about the eighteenth; and the third, or *Dens Sapientiæ*, from the twentieth to the thirtieth." Upon what authority this statement rests, I know not; certainly no observation of nature would have led to so incorrect a statement.

I shall now give the real natural progress of events: I have therefore to observe, that the first large double teeth, four in number, cut the gum about the sixth year, and frequently do they make their appearance, one on each side of the upper and under jaw, close to the last teeth, before the first or temporary set have shown the least symptom of their roots being absorbed and the consequent loosening taking place; these generally acquire their full perfection in the space of two years. The second large double teeth of the permanent set, on each side, close to those I have just mentioned, imperceptibly begin

to cut their way through the gum about two or three years after, and their completion may be fixed at the age of ten or eleven; and, lastly, the wisdom teeth, also four in number, one at the extremity of each jaw, from the age of seventeen to twenty-one, at which time the full and complete set of thirty-two permanent teeth have in general appeared: though in the course of my professional practice I have, in several instances, observed that the four last or wisdom teeth, notwithstanding ample space has been left in the jaw, have never appeared at all, and thus the natural number has been reduced to twenty-eight; and so far from the slightest inconvenience having occurred at any period of life from their absence, I have considered it a fortunate circumstance; for the teeth not being crowded and pressed against their neighbours, have had less liability to decay, and have lasted longer than many sets that have been more complete. From the account I have just given to the reader, from actual

observation of the appearance, at the various times, of the different teeth, he will better be enabled to judge of the periods when the system is undergoing its change, than from the speculative opinions of John Hunter, for whose experimental zeal I cannot but entertain the greatest respect; he must, I think, have placed his reliance on the opinion of some dentist, who misled him, but from what cause I am unable to conjecture; for observation would have enabled any individual, little skilled in surgical or anatomical knowledge, to form an opinion more correct, and a judgment upon which more reliance could be placed.

With regard to the cause of the premature decay of the adult large double teeth, it is necessary for me to explain a little more fully their formation and the circumstances which attend it: for, from a full and accurate description, the reader will be best able to form his judgment upon the opinions I have to advance.

These teeth, which form, as I have just described, in the upper and lower jaw, are much larger than any of the others when completed, and have more fangs; the body or crown (by which we mean that part which is visible from the gum upwards) forms almost a square with considerable protuberances, and angles on the grinding surface. These points and protuberances, whilst the mouth is shut, pierce into the centre cavity of their antagonists in the other jaw; so that the teeth in the upper circle are constantly acting upon the centre of the lower teeth; whilst, on the other hand, the teeth in the lower jaw are performing the same destructive operation upon the upper teeth; and by the constant action, the contact and general pressure one upon the other, during mastication, small cavities are imperceptibly made upon the surface of these important teeth. The natural consequence is the lodgement of various substances, so injurious to the healthy functions of the teeth, that decay and its consequent miseries soon

occupy the very heart of the tooth, and the disease seldom confines itself to one spot, but is soon disseminated, and the evil communication is quickly spread.

The great, the important remedy, and like all the most valuable systems the most simple, is cleanliness. Upon this depends a good deal, I may say, of the happiness of life; for those who suffer much from the tooth-ache, or from early decay, lose much of comfort and pleasure of the world. To accustom young people to cleanliness is of such real importance, that I must dwell upon its necessity, and assure parents that it is a duty they owe them to inculcate the constant practice of using a proper tooth brush, and of washing the mouth frequently with cold water. Some little trouble certainly must at first be taken, but the habit is soon acquired, and when that once is the case, it becomes so customary, and indeed is found so indispensable, that I have found few who have abandoned the plan,

and none who have tried it, but have been convinced of its good effects. At the age of about four, two years before any of the temporary teeth are shed, children should be taught to brush their teeth well with a suitable small brush ; and I prefer their using for this purpose cold water ; it braces the muscular fibre, gently quickens the circulation through the gums, and gives them a healthy vigour and firmness. The cleansing should be done morning and evening at least, and were it not too much to expect from the natural liveliness and carelessness of children, I should wish it could be always done after each meal ; for I firmly believe it to be impossible to pay too much attention at this time of life, or to be too anxious for the healthy progress of the valuable organs upon which digestion and nourishment, independent of external beauty, depend.

There is another very great advantage in the constant use of the brush and cold water,

which is the gradual formation of more space between the teeth ; for frequent observation has proved to me that they slightly recede from each other, which, when there is a tendency to too crowded a growth, (a thing not of rare occurrence,) may be considered highly favourable. The offensiveness of the breath, of which parents have frequently occasion to complain when children return from school at their holidays, arises from the neglect of the habit I so strenuously recommend ; and which, it appears to me, I cannot too often impress upon the minds of those who read my book, as I always have done on those who have intrusted the preservation of the teeth of their young family to me.

The next subject I must mention here, though it more immediately appears to belong to that part of my Treatise which describes the growth of the earlier teeth, and the diseases incidental to them ; but the cause of the decay of the small double side teeth belonging



to the permanent set, which is a great disfigurement to the countenance, as well as a serious loss in the power of articulation, depends upon their early connection with the temporary set; and are acted upon in the following manner, at a time when it is too often neglected and completely overlooked.

A decay is frequently formed upon the side of the first large double tooth very soon after it cuts its way through the gum. It lays completely hid from observation between the interstices, and of course increases in size and communicates a destructive decay to the growing tooth; and is the cause of the necessity of extracting the permanent tooth earlier than any of its surrounding growth. A skilful and attentive dentist does not allow this insidious disease to advance: he is aware that such a disease is incidental to childhood, and of course recommends his young patients to be frequently brought to him for the inspection of their mouths; and should he see

the slightest black speck between the teeth, he loses no time in extracting the shedding tooth, and thus prevents further mischief. He has then a further object to pursue: he must carefully observe if the permanent tooth has yet suffered from the dangerous contiguity of disease. If a dark speck, however small, should appear, he must carefully use a small file with the greatest gentleness, yet firmness, so as cautiously, yet effectually, to eradicate every semblance of that mischievous blackness, which brings with it a train of bad consequences. Sometimes the disease has advanced in its progress, and a cavity containing the seeds of future destruction is made, and then still further treatment is necessary. The operator must, without further delay, most attentively clean out the cavity, observe that no caries remains, and take the precaution of stopping the tooth in the way I am about to describe, and thus check the progress of a formidable disease. I am, perhaps, too minute, and may, indeed must,

frequently make repetitions ; but it appears to me they are necessary for a thorough knowledge of the attention necessary to be paid.

Of the utility of the practice of stopping the teeth, I am myself perfectly convinced: indeed, I am in the constant habit of meeting in my practice patients, who, in their earlier years, had been obliged to have this operation performed, and whose side teeth were consequently preserved. Whilst writing on this subject, a gentleman has paid me a visit, who has been my patient since the age of eight. During one of his vacations, I considered it necessary to operate in the way I have just mentioned, for I saw some incipient disease. Twenty years have elapsed, yet I found the same gold stopping, which I had inserted in one of the large first double upper permanent teeth, and also in one of the large under double teeth ; a new tooth has grown up by the side of its probably once decayed neigh-

hour, and they are both in a state of perfect health, have never given any pain, and promise to equal in durability any of the other teeth. Of course their preservation has been of material importance in mastication, and the various functions of life. This I mention merely as one instance of the success of this plan of treatment; but were it necessary, I could give a very great number of cases, which are not unworthy attention, where a similar effect has been produced: and I have no hesitation in affirming this to be one of the most important and useful operations that can be performed.

The next teeth that make their appearance, frequently with much pain and general constitutional disturbance, have been called the *Dentes Sapientiæ*, "The Wisdom Teeth," and are the last of the second or permanent set. They are generally smaller than the rest of the grinders, their fangs are much less

regular and distinct, and they not unfrequently appear as if they had been squeezed together: their fangs are often curved, sometimes one fang only is observed. Their obscure situation and want of space cause an irregularity in their growth and formation, and may at the same time prevent attention being paid to them by the careless observer. Their time of cutting through the gum, and becoming perfect, is somewhat unlimited; in some subjects they appear rather late in life, in others at a much earlier period. But no assignable cause for this variety can be given; it does not appear to depend upon general health, or upon any local differences. These teeth on the extremity of the upper and lower jaw finish the complete set; and the mouth, when these have attained their growth, is perfectly formed; and should proper attention have been paid, it is now fitted for all its proper purposes—is ornamental and useful. And when the gradual changes, which the

natural progress of time produces upon the constitution, occur, less pain and less inconvenience is felt by those who have had a regular well-attended range of teeth, than by those whose neglect must be the source of misery and pain.

There are instances where these wisdom teeth have never made their appearance: nor is this of very rare occurrence, even where the jaws are sufficiently large, and ample space has been afforded by nature. In some persons only two large teeth are to be found in the upper jaw; sometimes this appearance is presented only in the lower. I do not know that any mischief has ever resulted from this deficiency; and sometimes where the mouth is small, it seems to be productive of advantage. We frequently find that on cutting the wisdom teeth, for want of sufficient room, especially in the under jaw, irritations of a very serious nature have occurred. There is a pressure

from a particular point or protuberance of an upper tooth, which forms an unequal pressure on the gum, which frequently covers the whole surface of the approaching tooth; and this soon causes sympathetic fever, quick pulse, and disagreeable symptoms, and where the cause is not understood, may be considered alarming. Sometimes the pain is so acute as to have been mistaken for that painful affection of the face to which the name of the "Tic Doloieux" has been applied. This may occur whether the cutting of these teeth has commenced at the very early age of sixteen, which is, I think, the very youngest period at which they appear, or from twenty till twenty-five, when they most generally occur.

To mitigate the suffering, the first thing necessary is to reduce the point or protuberance of the upper tooth with a file well adapted for such a purpose, and to lance the

painful gums in a conical direction; and where this operation is performed by an experienced and careful person, the relief is almost instantaneous. The mouth should be well washed with warm water, in which I always mix a small quantity of my preservative lotion, and this treatment should be repeated whenever pain and uncomfortable sensations are again felt; while quick pulse, the harbinger of inflammation, and the slightest tendency to fever, should be obviated by gentle cooling laxatives, under the direction of a medical practitioner. Many circumstances of a serious and alarming nature have occurred to me during my practice at this particular period; and as operators on the teeth and gums in remote parts of the country may not be conversant with the dangers attending this period, it is to be hoped that a description of one of the cases of this kind may not prove uninteresting. Watchfulness over all the symptoms of diseased teeth is all times re-

quisite; for, independent of the mere local disturbance, general constitutional disease is quickly produced; and what trifling attention might speedily have arrested, becomes, from inattention, alarming and formidable. I think the case I am about to narrate, not unworthy the attention of those interested in the progress of such affections.

CHAPTER VI.

Of Spasmodic Contraction from Cutting one of the Last, or Wise Teeth.

IN the year 1789, a respectable tradesman at Exeter, about twenty-eight years old, applied to me. He complained of some pain and muscular stiffness on the extremity of his right under jaw: a painful sensation had existed for several months. On examining his mouth, I observed he had an excellent set of teeth, only one missing, which was drawn in consequence of his suffering violent tooth ache about two years before: it was the first large double tooth on his left under jaw. On farther examination, I observed three of his last or wisdom teeth were completely formed and in excellent condition; but the fourth

still remained under the gum. His teeth were of a large size and crowded; the second large double tooth was close up to the edge of the coronoid process. I consulted with his medical friend, Mr. John Patch, an eminent surgeon and anatomist, who agreed with me that it was necessary to extract the second large double tooth to give vent and sufficient room for the lingering tooth. On lancing the affected part, I discovered distinctly the tooth was completely under the gum, near the coronoid process. On his being informed of the necessity of extracting the tooth, near the inflamed part, to give room for the one hidden, to make its way through the surface of the gum, and the danger, if the operation were to be postponed; he declined, in positive terms, and would not undergo the pain of having another tooth drawn; for, on a former occasion, he was on the point of death from the suffering, occasioned by a violent swelled face and great pain for near a year afterwards. Every thing was now done by the kind and

judicious assistance of Mr. Patch to alleviate the sufferings, and to disperse the inflammation, or to bring the affected part to a suppuration: but nothing availed, and in the space of a fortnight his under jaw closed up. It was then, with the greatest difficulty, nourishment could be given through the space where the tooth was missing, by a silver tube. A preparation of Pellitory of Spain was put on the part affected: it produced a copious salivary discharge, and had the happy effect of relaxing the jaw and reducing the swelling considerably, so as to enable him to open his teeth about three parts of an inch. Notwithstanding there was no appearance of the approaching tooth, nor was there any discharge, except that of saliva which was produced by the application mentioned above. It was, however, our decided opinion, that unless the tooth near the diseased part was taken out, his jaws would soon close again.

The wife of the sufferer being informed of the danger of her husband, prevailed on him to submit to the operation, which would produce on him the speediest and most effectual cure. Her remonstrance with her husband had the desired effect; he consented to undergo the operation; and without loss of time, I gave direction to a cutler, and stood by him whilst he formed an instrument, with which I could best be able to perform the operation. It was completed in less than an hour and a half. The next morning Mr. Patch accompanied me to the patient's house: he had passed a restless night, and was much reduced from want of nutrition and subsistence. There appeared visible symptoms of his jaws getting closed, therefore no time was lost in performing the operation; and as it was not possible to place the instrument on the inside of the gum, which generally gives less pain to the patient, and is not so liable to fracture any part of the jaw-bone, I placed it as near the

tooth as the situation would admit of, and with gentle and gradual pressure I loosened it out of its socket. The discharge of dark and stagnated blood was profuse; great caution was necessary to guard against excoriation of the gums, and also to prevent hæmorrhage. I succeeded in disengaging the tooth from its adherent gum, without the least fracture of the jaw-bone: the operation was completed in the space of two minutes. The bleeding was allowed to continue to a certain quantity, after which it was fortunately subdued by applying pulverized crude alum on lint, with pressure on the part.

The patient became somewhat easier an hour after the extraction of the tooth, and was more tranquil: a composing draught was administered with great difficulty through the silver tube, as mentioned before. He passed a much better night than he had for some time past, and was better the next day than could be expected, and was able to open his

mouth to make use of some nourishment, of which he was in great need. In the space of a fortnight I perceived a point of the new tooth through the gum: he then gargled his mouth and throat frequently with my preservative lotion, diluted with half the quantity of lukewarm water, which produced a good effect, and in the course of about six weeks his health was perfectly re-established.

CHAPTER VII.

Of the Loss of Teeth in an apparent state of soundness, by the disease commonly called Scurvy of the Gums.

I HAVE, during the course of my practice, met with a disease to which this appellation has been commonly given; and many are the writers, and those of no little reputation in the medical world, who have exerted considerable ingenuity on the subject. They have found that the gums have been affected with a peculiar sponginess; that they are highly irritable, and have, on the slightest touch, poured forth a quantity of blood; and that the consequence has been the loss of teeth, whose healthy and vigorous appearance had by no means led the sufferer to expect their untimely loss. To this state of the mouth, the

injudicious term, Scurvy, has been applied. This is a disease which arises from the long confinement to which seamen and those shut up in garrisons, without the use of vegetables, are subject, and certainly does produce an affection of the gums; but it is widely different from that which is commonly found amongst those who have neither been deprived the use of vegetable aliment, nor have been subject to the privations, hardships, and bad living, which are its causes. To the nature of the real disease, I have only to refer to Dr. Lind, and to Anson's interesting and valuable Voyage round the World.

My attention was very early in my practice called to this particular affection, and so far from finding it necessary to have recourse to the constitutional remedies which scurvy would have required, I found that local treatment was in all cases sufficient to restore the gums to their healthy state. Indeed, in many cases the loose teeth have, from gentle and

judicious management, been more firmly planted by the increase of circulation through the gums that has been produced. The first thing necessary, and which I have invariably found of the greatest importance, has been the careful lancing the gums. And here, I must repeat my observations on the necessity of the instrument being in the finest condition, properly adapted for the purpose, and managed with firmness and decision. Bad instruments in the hands of a timid operator are dangerous; and the result of an attempt to relieve is always ineffectual, and often produces mischief. The lancet is to be passed steadily through the soft part of the gums, and a deep incision is to be made, so that the gum may bleed freely; a brush is then to be gently passed over, and the pressure gradually increased till a copious discharge has taken place. The brush should be dipped in the preservative lotion, made sufficiently warm, and frequently repeated. The softest brushes should at first be employed, and the greatest

tenderness and caution used, and every thing avoided by which any irritation of the unsound surface is produced. This treatment will occasion a discharge of offensive coagulated blood, which has lodged a long time in a stagnated state in the gum.

The success of an operator depends greatly on the method of treatment congenial to the nature and state of the disease, as will appear in the following history of an apparently inveterate disease :

In the year 1800, a gentleman of this city, about thirty-five years old, applied to me, whose teeth and gums were in a deplorable state from what had been termed by his medical friends *scurvy* in the gum. Several of his upper teeth had already dropped out, perfectly sound, and the remaining ones were in a loose state. All his under teeth were covered with fungous and spongy gums, streaming with blood on the slightest touch even whilst eating. The gentleman's com-

plexion was fair and florid: he had a considerable redness on both sides of his face. There appeared also some blotches with a paler and dryer cuticle on their surface. This gentleman informed me he had been under the care of a dentist for a considerable time, by whose recommendation he underwent a course of medicine under the sanction of a physician, without deriving the least relief. On questioning the gentleman, he told me that the eruption on the outside of his face did not extend to any other part of his body, and that he had been frequently cautioned, by both his physician and dentist, not to touch his gums, with any thing; for if he should meddle with them, he would wear them away from his teeth. In this deplorable condition did this gentleman suffer most dreadfully, with constant pain and discharge of nauseous matter from his gums; and it was the cause of his having lost nearly all his upper front teeth, although they were perfectly sound.

This gentleman put himself under my care. The first attention necessary was to lessen gradually the discharge from the fungous gums, which he had been desired not to meddle with. I passed a lancet on the interstices of the teeth through the diseased gums very gently, and brushed them in the beginning with the softest tooth-brush, constructed purposely for similar cases, dipped frequently in some of my preservative lotion. This treatment produced a copious discharge of an offensive coagulated matter; and as the case required the greatest care and attention, I repeated the operation and treatment every day for about a week; during which time a favourable change was visible. The discharge from the gums and the eruption on the outside of his face diminished gradually, and in the space of about four months the circulation through the vessels, and the lymphatics of the diseased gums, were gradually restored to a regular course, and the remaining teeth

and gums acquired, in a short space of time, a healthy vigour and firmness.

At this time, a fine little boy, about six years old, a son of the above gentleman, was brought for my advice. He had not yet, I found, shed any of his first or temporary set. I was very much surprised to find the child's gums encircling the teeth nearly in the same state as his father's; subject to bleeding on the slightest touch during eating, and his breath so offensive that scarcely any one could endure to be near him. His parents consulted the same dentist respecting their little boy's teeth, who was an only child, and the same injunction was strictly laid on him not to touch his teeth or gums with anything, adding, "that it was a hopeless case, an hereditary disease!!" Had this fine boy gone on according to the advice given, he would have shared a similar fate to his father, and would have laid the foundation of a formidable disease, which would have made

his future life uncomfortable. On examining this young gentleman's mouth, I had reason to conclude that the cause of this dreadful and accumulating disease was owing merely to the want of the daily use of a suitable tooth-brush with cold water. This was immediately given to him, with proper direction how to use it. This was strictly attended to by his mother, and I frequently inspected his mouth : the result was, that, in the space of a fortnight, the tumour and fulness were completely subdued, and his teeth and gums acquired a sound and healthy state. Proper attention has since been paid to the growth and regularity of his second and permanent set to the age of about sixteen, and I have completely succeeded : the young gentleman is now about twenty-eight, and enjoys the comfort of a fine sound set of teeth, and is perfectly free from any complaint in his gums.

It is evident that the term *scurvy* in the

gums has been indiscriminately applied, and has no connection with any other cutaneous disease, and that proper remedies and treatment, suited individually to the various diseases of the teeth, have not been applied.

CHAPTER VIII.

Remarks on the Use of Instruments, &c.

IT is well understood among deliberate and studious persons, that operations, which may in theory appear practicable, too frequently are limited by the imperfection of instruments; and that the true knowledge of the principles of practice can only be acquired through long and constant observation. Theory, in all branches of arts and sciences, is generally an introductory element to practice. And as the dentist's practice varies exceedingly, and embraces many branches of mechanism, it requires attention and experience to discriminate the different classes of defects and deformities with precision, so as to enable him to form instruments to remedy them. I have been at all

times more inclined to improve than to invent, except when cases of intricacy have convinced me that the obstacle arises from defect in principle. Instruments are of the utmost importance in obeying the dictates of the mind: they are the result of thought, and enable us to relieve the miseries of man by certain and effectual means; and though momentary pain may be produced by them, they gradually lead to a cure, and supply, in some measure, the power of Nature: for they stimulate her into action, or produce by speedy means the result which she, by a more lengthened operation, would herself have wished. Mechanical knowledge here becomes of great importance; not to be confined to a laborious exercise at an anvil or workshop, which would cause a heavy and tremulous hand, unfit for performing a more steady and delicate operation on the teeth and mouth, but to render efficient the power of others to obtain the desired object. And it is a great advantage to make choice of an in-

genious and *faithful* artisan to execute, with precision, such *instruments*, *forms*, and *models*, as may answer the operator's design. It is advisable that dentists and operators in general should select and furnish themselves with proper and *suitable instruments*; for, without them, it would not be in their power to perform an operation with success, but would produce misfortune and disappointment to both operator and his patient.

CHAPTER IX.

Of stopping Cavities in decayed Teeth with either Gold Leaf or Tinfoil, prepared for that purpose.

STOPPING a cavity in a decayed tooth, so as to preserve it effectually, is one of the most desirable branches of a dentist's art; the success of which depends greatly on the preparatory treatment, and a variety of instruments properly adapted for the purpose. Persons from fifteen to five-and-twenty years old, who may not have had proper attention paid to their teeth, should have them examined with great care and attention under the inspection of an *experienced dentist*; for it is necessary to know that nine hundred and ninety-nine persons out of a thousand lose

their teeth for want of *proper and timely attention*. The teeth vary in size and durability, consequently they require such treatment as is best suited to their different forms. It is evident, that persons who are so unfortunate as to lose them rapidly by destructive contiguity, might, by *timely* and judicious management, have them effectually preserved. The teeth most liable to early decay are the first large double permanent teeth on each side of the upper and under jaws; and it appears chiefly on their grinding surface, and also on the sides or interstices, as stated in page 26. The best method to trace a decay in any tooth is by the use of little instruments, in the form of a broach, of various sizes, commonly so called and used by watch-makers, made sharp at the point, fixed in small ivory handles about two inches long, so as to enable the operator to direct them in the cavities with as little difficulty as possible, turning the handle of the little tool *gently* between the thumb and the next

two fingers; and when the carious part has been well cleared on the insides of the cavities, he must introduce a small piece of wood (the thickness and shape of a common skewer is the most convenient): the point of it must be prepared by the operator himself, who is the best judge of the size required, that it may not be too thick to clear the cavity with ease. Dip the point of the piece of wood frequently in a little of the preservative lotion (which should be at all times used as a most serviceable assistant in the preservation of the teeth and gums); brush the cavity thus prepared for several minutes, the tooth-brush dipped frequently in the lotion, which ought to be used warm in most seasons, especially should the defective tooth prove to be susceptible of pain. The cavity should be made dry with a soft piece of linen or handkerchief, pressing on the cavity to prevent moisture. The dentist should at the same time prepare the gold leaf or tinfoil to its proper form, and the quantity that he may judge necessary.

The instruments for stopping teeth should also be in complete order; and the success of the operation depends greatly on the steadiness of the operator's hands.

On my arrival in this part of the country, in 1783, applied to me James Russel, esq. a gentleman residing with his family at Clifton, near Bristol. He suffered at that time great uneasiness on one side of his face. On examining his mouth, I discovered a considerable decay in one of his large double under teeth, on the outside of the crown or near the gums; and, after relieving it by the same sort of treatment I have just mentioned, stopped the cavity with fine tinfoil. I had the pleasure of seeing Mr. Russel recently. He informed me that the same stopping and tooth remain perfect and firm to this day, and it now is one of the most useful teeth with which he masticates. Having had Mr. Russel's consent to mention his case, it will prove, I flatter myself, interesting to the

reader to know the advantage of preserving a decayed tooth, and that it is most successful, if attended to in due time. Stopping cavities in decayed teeth with prepared gum mastic or white wax, though not of the same permanence as with metallic substances, has its efficacy, especially when a patient is at a distance from a dentist, and he is advised, on such an emergency, to have recourse to either of these substances, in order to prevent as much as possible an increase of decay, until an opportunity offers to have it properly secured.

CHAPTER X.

Decay of the Teeth by Denudation, and an effectual Method of Treatment to pre- vent it.

THE celebrated John Hunter having described this class of disease to be less common than I have already mentioned, concludes, in the latter part of his Natural History of the Human Teeth, part ii. pages 24, 25, and 26, with the following observations, viz. “Those
“whom I have known, have not been able
“to attribute this disease to any cause.
“None of them had ever done anything
“particular to their teeth; nor was there
“in appearance anything particular in con-
“stitution, which could give rise to such a

“ disease. In the first of these cases the
“ person was about forty, in the last about
“ twenty years of age ;” and concludes thus,
from its attacking certain teeth rather than
others in the same head, and a particular
part of the tooth : “ I suspect it to be an
“ original disease of the tooth itself, and
“ not to depend on accident, way of life, con-
“ stitution, or any particular management of
“ the teeth.”

I have met many persons, at an early
period of my practice in this country, whose
teeth were subject to this disease. Many
had lost them at an early age, though advice
and assistance were obtained from the most
eminent dentists ; and no cause has been
assigned for this destructive disease, termed
“ denudation.”

The Author has concluded the pre-
ceding important subject in an undecided
manner, nor has he suggested any rule or

method of treatment how to prevent such a disease. The sources from which I have derived information are such as my reader may rely on for minute exactness,—my own practice and experience.

The causes of this disease are simply a want of the proper management in cleaning the teeth from an early period of life; and also the too frequent use of the daily advertised nostrums for the teeth and gums, which very generally contain some deleterious ingredient. They are used under various forms, such as tooth-pastes, electuaries, tooth-powders, for bleaching the teeth white, &c. &c. and are imposed on the credulous and unwary by means of pompous advertisements; and many are the victims who fall into the specious and destructive snare. These very injurious nostrums are made up in various shapes, and not unfrequently recommended to be employed on very hard and improper tooth-brushes.

This friction takes place, of course, on the outside of the teeth; and there is a pressure made by these corroding substances partially on the convex part of the enamel: and the effect certainly is at first very alluring, for there is a pearly whiteness produced, which for a short time lasts, and is very attractive; but this soon ceases, and the bad consequences quickly follow. In a very short time the teeth acquire that particularly disagreeable sensation which is known by the name of the 'teeth on edge,' and is the precursor of much more serious mischief. The promised whiteness of the teeth, the florid redness of the gums, soon vanish, and leave a train of dangerous ills behind them. Gargles and medicines used in ulcerated and sore throats, though sometimes indispensably necessary in the treatment of important diseases, are exceedingly pernicious when they contain the acids. The patient should be cautioned to use the gargles with care, to rinse the mouth frequently with warm milk and water,

and about a quarter of an hour after each use of the gargle, to cleanse the teeth: for by such attention the pernicious tendency to the disease, denudation, is avoided, and the consequent mischief, which neglect brings with it, is prevented.

CHAPTER XI.

Of the Front Teeth getting Loose at an early period, from Twenty to the age of Fifty.

DISEASES causing this defect occur frequently in the practice of dentists, who are increasing daily in numbers: and some of them are inexperienced in the various branches of the late improvements. It is necessary the reader or the practitioner should be cautious before any plan of operations, in complicated cases, is determined upon; and should consider maturely, and if any of them do not feel sufficiently competent, they should not hesitate to consult those more experienced; the necessity of which will be

clearly proved by the following quotation :
 T. Berdmore, in his Treatise on Diseases of
 the Teeth and Gums, published in 1759,
 page 69, recommends the following mode
 of fastening loose teeth, viz. “ The loose
 “ teeth should be made fast and steady by
 “ connecting them with the sound ones by
 “ means of gold wire or silken ligature, and
 “ care should be taken *not to press* on them
 “ for some time in mastication, or with the
 “ touch of the tongue.”

Rational practice and experience have
 sufficiently proved that ligatures (some few
 instances excepted) are dangerous. They
 loosen those sound teeth to which the ligature
 is fastened. Besides, common understanding
 must teach that the caution of “ not pressing
 “ on them for some time after the ligature
 “ hath been fastened, or not touching the
 “ loose tooth with the tongue,” could not be
 endured for any length of time.

Looseness of one or more teeth, from twenty to the age of fifty, is occasioned by particular pressure of a neighbouring or opposite tooth; by an accumulation of a concrete and tartarous substance; and, lastly, by a too great fulness, arising from the long neglected state of the vessels of diseased gums.

Experience has convinced me that a looseness of one or more teeth at the period above mentioned, is generally occasioned by a combination of these diseases. The operator ought, therefore, to be particularly careful in examining the case with great attention; a remedy or a cure depends greatly on the manner and occasional repetitions in performing the necessary operation best calculated to mitigate the suffering or to effect a cure. If any of the front teeth be discovered to be loose, no time should be lost to have it examined by an experienced and careful dentist, who must give it mature consideration, to en-

able him to form his opinion with precision and candour of the real cause and seat of the disease. Should a partial pressure of an opposite or neighbouring tooth be the chief cause, let that part pressing on the loose tooth be reduced with a file, properly adapted for the purpose; and the file is to be dipped in warm water frequently. The dentist should pass the file *gently* over that part of the tooth which causes the pressure in contact with the loose one, and support at the same time the tooth operated upon with the finger next the thumb. Should the part where it is filed on be susceptible, or affected with any unpleasant sensation, take a *flat file* that has been already laid by, about four inches long and the twelfth part of an inch thick; heat it thoroughly, dip the one end of it in cold water to enable the operator to hold it, and with the hot end touch the tender part with a gentle pressure, more or less, until the surface of the tender part gets perfectly eased: the actual cautery may be repeated with safety

until the operation is completed. Should the loose tooth have become somewhat longer from the gum than its neighbour, it is advisable and safe to reduce it to its proper length, that it may not be so liable to be constantly disturbed and loosened by another in contact.

CHAPTER XII.

An Instance of the Dangerous Effects of Gold Wire and Silken Ligature.

IN 1816, a Scotch family of distinction were on the point of coming to Bath for the purpose of completing the musical education of a daughter; and previous to their leaving Edinburgh, the mother took her to a dentist to have her teeth inspected. Her four last or wise teeth had not cut through the gums. The set consisted of twenty-eight teeth, all of which were perfectly sound. Her upper two centre teeth were apart from each other in the centre, formed so by nature, and of rather a larger size than usual in proportion to the rest of her teeth, but in every respect

perfectly sound and agreeable to the eye. The lady's mother questioned the dentist whether he could bring the two centre teeth closer together, which she should like, provided it could be accomplished with safety. The dentist, without a moment's consideration of the consequence likely to follow, answered in the affirmative; and Mr. Berdmore's passage, page 69, was quoted, whom he considered eminent in his profession. He assured the lady that success would attend the operation; and as there was no time to be lost, a silken ligature was immediately applied, which drew the two centre teeth together. The ligature got loose during the first night: the following day, when the journey was fixed upon, another silken ligature was tied close round the neck of the two centre teeth, fastened under the gums in such a manner that it could not slip off. The family set out on their journey to England on the same day. The next day the gum became painful, and swelled where the ligature was fixed, and symptoms of fever

and head-ache were the consequence ; it was therefore deemed necessary to have medical advice. The first place where the travellers rested a medical gentleman was consulted : he was prudent enough to take off the ligature, and advised the family to remain there a few days till the inflammation and fever should have abated. The young patient recovered in a few days, and she proceeded on her journey without the ligature. On her arrival in London, a dentist was consulted, whose opinion in this case was considered to be given without attention, as he happened to be engaged at the time, and was by no means favourable to the lady's wish. In the space of a week the family proceeded to Cheltenham, to remain some time ; during which, the case was made known to a medical gentleman, who recommended a dentist, of whose abilities he had a favourable opinion, and who happened to be at Cheltenham at the time. The mother of the young lady, still anxious to improve her daughter's appearance, and to

bring the two upper teeth together, had an interview with the dentist, who, on first inspection of the young lady's mouth, exclaimed presumptuously,* that he would bring the two upper centre teeth together, and that he was certain of success. The anxious mother naturally placed confidence in his assertion, and put her daughter under his care, who,

* It has been said by a learned professor in one of his lectures, "Presumption, gentlemen, is the offspring of folly; and it commonly happens that a young man who thinks himself an exceedingly clever fellow, is a particularly egregious blockhead. It was observed by one of the greatest philosophers of antiquity, at the close of a life devoted to the acquisition of knowledge, that all he knew was, that he knew nothing; and if we consider, gentlemen, the amount of individual acquirement, as compared with the knowledge which is either unattainable, or which the human faculties have not yet reached, the observation of the philosopher is strictly true. A man of real abilities, instead of pluming himself on the extent of presumptuous acquirements, will, in proportion as he advances in life, lament that there is still so much of which he knows nothing."

without reflection or consideration, twisted a gold wire round both her upper front teeth, pretty high round the neck of the teeth under the gum, which caused an instantaneous alteration in the closing of both upper centre teeth, to the gratification of both parties. But these pleasing expectations were but of short duration, and were eventually frustrated.

In a short space of time the young lady felt an unusual uneasiness, and in the space of a few hours after the gold wire was fastened, pain and swelling under the upper lip were felt. The family had an invitation to a musical party at a friend's house the same evening, but the state of the mouth prevented the young lady's presence, to the great disappointment of the company. On inquiry respecting the cause of so great a privation, the mother of the sufferer informed her friend the nature of her daughter's indisposition. The lady of the house having many years

honoured me with her confidence as a patient, immediately recommended her to proceed without delay to Bath, to consult me on the state of her daughter's teeth. The family arrived the following evening. The lady called on me the next morning, informing me that she was recommended to put a daughter under my care, without mentioning a syllable of anything that had occurred before.

On my inspecting her mouth, I was astonished to see so deplorable a case, and soon discovered the cause of the mischief, "the golden wire ligature." Her upper lip was swelled to an enormous size: the palate and the gums around the two centre teeth were most violently inflamed. It shocked me to observe the extraordinary and unthinking bad treatment the unfortunate sufferer had met with. Her gums showed symptoms of mortification, and her pulse was at this time 145. The first thing I thought necessary to do was, to take off the twisted

ligature from her teeth, in which I found great difficulty; it was fastened far under the gum, and both centre teeth were exceedingly loose. I was compelled to extricate the gold wire from the teeth with great caution and gentleness, and I succeeded in the space of twenty minutes. The discharge of purulent matter from all parts of the gums was copious. She remained with me nearly two hours; during which time I directed her to use the preservative lotion frequently as a gargle, which relieved her greatly, and before she left my house her pulse lowered rapidly. I recommended her to a medical gentleman to take care of her general health, whose reputation for great skill and attention to his patients is well established. I attended her twice a day for the first week at her lodgings, lancing the gums frequently through the interstices of the teeth pretty deep: the frequent use of the preservative lotion produced a happy effect, and restored the circulation of the vessels of the gums. An external gentle

pressure was applied on the outside of the upper lip, in order to restore gradually the two upper centre teeth to their natural position; and in the space of about ten days the improvement of the general state of the gums became visible, and she was enabled to make use of a soft tooth-brush.

At this time she was able to come daily to my house; and in the space of about a fortnight, (during which time the necessary operation of lancing the gums was performed every other day, as she regularly followed the general treatment I recommended,) her two upper front teeth, which were exceedingly loose, and had a short time before the appearance of dropping out, were restored to their natural state and firmness. These two upper centre teeth, from their formation, were destined by Nature in her distribution to grow apart: no art or violence should have been attempted in the present case to alter her laws.

CHAPTER XIII.

Fatal Consequence of Inattention after drawing a Tooth.

DURING my practice in Devonshire, in 1789, a medical gentleman, Dr. Gage, observing me alight from a carriage at Plymouth, stopped to welcome me, and drew my attention to a funeral just passing; and informed me of the melancholy occurrence which caused it. It was as follows: a respectable tradesman of Plymouth, on his journey on business, passed through Kingsbridge, South Devon. Whilst putting up his horse he was seized with a violent tooth-ache. He was informed by the landlord that a young man at a druggist's, near the inn, was considered to be one of the best tooth-drawers. On the

increase of the pain, the poor sufferer called on the young doctor, requesting him to draw his tooth. The doctor, without examining the state of the tooth and the condition of the unfortunate traveller, had recourse to his instrument, which he said was the only one he had, and the best in the country: placing the patient on the floor, he pulled the tooth with great violence, it was the first large double tooth of the under jaw; to which a part of the jawbone adhered. The man took leave, without receiving any instruction or caution how to take care of himself on his journey to Plymouth, on horseback, about fifteen miles distance, on a cold, windy, and rainy afternoon. The first part of his journey, the discharge of blood was considerable, and obliged him to stop at a public-house on the road, where he gargled his mouth with warm brandy and water, which gave him some relief; after which he proceeded on his journey home, and arrived about half after nine o'clock at night; at which time his jaws and head

were chilled and greatly swollen, he had symptoms of fever and great stiffness in his jaws. Every thing was done, by the exertion of an affectionate wife, to render his situation as comfortable as possible. Medical assistance was called the next day; at which time symptoms of a locked jaw and mortification threatened, which increased in the space of four and twenty hours to an alarming state, and baffled the best medical aid. The poor sufferer expired on the sixth day after his tooth was extracted, at the early age of thirty-two, though he had a healthy and robust constitution. He left a widow and two infants to deplore the untimely loss of an affectionate and industrious husband and father, who fell a victim to ignorance and inattention.

I called on the unfortunate widow, accompanied by Dr. Gage, who met me on my arrival. The wife of the deceased, who was but twenty-five years old, having stated to us the particulars of this melancholy narra-

tive, showed me the tooth which she found in one of her late husband's waistcoat pockets. Its decay was trivial indeed: a small cavity on the grinding surface of the crown, in which a small hard substance was pressed, which had the appearance of being seed forced into the cavity by mastication, and was the cause of the tooth-ache on his alighting at the inn at Kingsbridge. Had the little hard substance been taken out of the cavity, the gums lanced, and a small point or protuberance reduced on the upper tooth, which pressed in contact with the cavity, and stopped with a little lint, moistened with a drop of any essential oil, instead of extracting it, both the man and his tooth would, in all probability, have existed to the present day.

CHAPTER XIV.

Of a Contraction on one side of the Face, in consequence of breaking a considerable portion of the Upper Jawbone, in extracting a decayed Tooth.

ABOUT the same period as that at which the case mentioned in the preceding chapter occurred, a young lady was brought to me by her friends, accompanied by the late Dr. John Mudge, M.D. F.R.S. residing at Plymouth. She was about eighteen years old; and underwent a severe operation about two years before. She had the first large double tooth extracted on the right side of the upper jaw, which ached and threatened to injure those on each side. The operation was performed by a surgeon who attended the family: a large portion of

the jawbone was unfortunately broken, and on its being disengaged from the adhering gum with very great difficulty, the two adjoining large double teeth, the roots of which appeared twisted together, came out with a large portion of the jawbone.

The young lady was of a healthy and good constitution: under the care of Dr. Mudge and Dr. Gaskyne, both residing at the place, she recovered her health tolerably well in the space of three months. But the result of the unfortunate accident was a gradual contraction of the muscles in the cheek under the eye, which caused an unpleasant deformity on one side of her face. Her upper teeth, towards the left side, were perfect and beautiful; but her two upper centre teeth, in consequence of so great a vacuity, had the appearance of separating towards the deformed side. On examining her teeth more particularly, I discovered a dangerous decay on the interstices of the two

large double teeth, in the upper jaw on the left side, threatening an injury to the adjoining teeth. On mature consideration, and in conformity with the opinion of the medical gentlemen, I recommended the tooth to be drawn, which would at the same time counteract and prevent, in a great measure, the two upper centre teeth yielding towards the deformed side.

The friends of the young lady were alarmed in consequence of what had happened before, but on their being informed of the real necessity and advantage resulting from the operation, they acquiesced; accordingly I performed it perfectly safe.

The caution necessary on such an occasion is as follows: a separation and a clear opening on each side of the decayed tooth must be made with a convenient flat file, adapted to the purpose; the gum must be lanced with a good lancet, the fulcrum of the instrument

must be placed on the *inside* of the mouth with corded cotton ; the claw or hook affixed on the fulcrum should be of sufficient curve so as not to press partially on any part of the crown of the tooth. The operator should not attempt to draw the tooth in one pull (as many operators do indiscreetly), which in such dangerous and difficult cases frequently fractures the jawbone. I shall, therefore, recommend here the method of my own practice. Let the fulcrum or neck of the instrument, covered pretty thick with corded cotton, be applied first on the inside ; the claw or hook surrounding the crown of the tooth, towards the neck of the tooth on the outside close to the gum: pull it gently with a moderate portion of strength, guided by reason, until the tooth yields a little; then let another instrument be in complete readiness, of a lesser size and compass, to be placed on the *outside of the gum*, and by pulling gradually in a reverse direction, the tooth generally gets loose from its socket; after which

apply a strong forceps close round the neck of the tooth; and thus moving it to and fro, without fear, the tooth will be drawn safely. It is necessary to mention that two of the large double permanent teeth, in the upper jaw, have generally three fangs, extending to the extremity of the roots in a triangular direction; and are called triple-fanged teeth, consequently each of these two molares have three sockets: one of the fangs extends far towards the inner palate of the roof of the mouth; the other two fangs in distinct separate sockets, deep in the alveolar process, in a direction towards the outside. To disengage the tooth from its sockets, after it is loosened, where the orifice appears much less than the extent of the three fangs, requires skilful and gentle treatment. As soon as the tooth is disengaged, a quantity of warm water should be in readiness for the patient to wash the mouth plentifully: it should be as warm as can be conveniently used, mixed with a small quantity of the preservative lotion: and the

same treatment should be continued with attention for half an hour. The operator should at the same time press the gums very gently with his fingers, to unite such parts of the socket as may have unavoidably been lacerated by the fangs of the tooth in its passage through a smaller orifice than the size of the fangs of the tooth. This treatment should be repeated three or four times the same day the operation is performed.

I saw the lady, whom I have just spoken of, about six years after I performed the operation, when it was gratifying to observe that the vacancy where the tooth had been taken out was completely closed up by the side teeth falling backward, and the two upper centre teeth remained steady in their places.

CHAPTER XV.

Of filing decayed Teeth, and preserving them by reducing the Carious Part with a File.

IN treating on this interesting subject, it is necessary to state the objections frequently made by some gentlemen of repute in the medical world, who condemn altogether the practice of filing off any part of a decayed tooth, under an erroneous supposition. I have often heard it alleged that “filing off any
“ part of the enamel of a tooth, and exposing
“ the remaining part to the air, must cause a
“ total loss.” This prejudicial doctrine has, and may yet, produce much mischief to many persons who are likely to be influenced by such erroneous insinuations. Authors of such false reasoning, however eminent they may

be in the sciences of hydrogen and oxygen, and skilled in the anatomy of a skeleton, are mistaken: my practice and observations have convinced me that there is no other remedy to prevent a destructive decay of the teeth, than by either filing or stopping cavities with gold leaf, &c.

The former practice of filing away effectually a decay from a tooth, if discovered in due time, is preferable. Many thousand persons now living can prove its beneficial effect; and if the method of treatment I have recommended in some of the preceding chapters were carefully attended to, the teeth and gums would certainly be less liable to decay.

In 1796, a young lady, at a boarding school in the suburbs of this city, being invited to spend a day at a friend's house, in conversation mentioned having an appointment on the following day to call on me

with her governess, for the purpose of getting her teeth filed. Some of the company present exclaimed in a rage, "What! that vile practice of filing the teeth!" and quoted the absurd doctrine of her learned friend, and persuaded the young lady not to have it done, but to wave her appointment. The governess of the school called to inform me the particulars of her pupil's report, and was at a loss how to act. I re-examined the young lady's teeth; her age was about sixteen; there appeared a decided tendency to a rapid decay through every interstice of the upper front teeth. I advised the governess, who appeared interested for her pupil, to inform the young lady's parents without loss of time. Her parents, who were my patients some years before, sent an answer by return of post, requesting the governess to be careful that every thing should be done to their daughter's teeth that I should deem necessary. The young lady's teeth were handsome; but in consequence of their pressing too close towards the upper front centre

teeth, a dangerous and rapid decay threatened, which was visible. Her last or wise teeth were approaching at the same time, which added to the danger. In order to prevent effectually the crowding of her teeth towards the front, it was expedient to extract a small double tooth on each side of the upper jaw, next to the first large double tooth, and to reduce the carious part carefully with a file. An operation of this description should not be attempted more than twice a week (emergent cases excepted): for if operations on the teeth, that require any length of time to complete, be hurried over by mercenary and inconsiderate operators, more harm than good will result.

I had an opportunity of seeing the young lady just mentioned, some years after. It was gratifying to observe that her teeth continued in a perfect state of preservation, which otherwise would have decayed at an

early age ; for which misfortune none could have been more blamed than the author of the absurd doctrine.

At an early period of my practice, I was acquainted with the late Mr. Crampton, surgeon dentist, of Dublin ; to whom I am indebted, and bear grateful remembrance for the knowledge I have acquired from him, on the admirable practice of reducing caries from any decayed tooth, and to preserve the remainder, on a principle never practised by any operator before him. Having had constant opportunities of deliberating with him on that interesting subject, and having met many of his patients, I was convinced of his superior abilities in that particular branch of his practice : and I must here offer the tribute of praise due to the name of a gentleman who has thus devoted his time for many years, and has gained general approbation from his patients among the higher circle of society.

The late Mr. Waite, of Burlington Street, London, told me he adopted the method of preserving decayed teeth I have just described, and that it was attended with invariable success and good effect in his extensive practice.

CHAPTER XVI.

Of Tooth-Ache, and various Remedies to mitigate the Pain and preserve the defective Tooth for a number of years.

THE tooth-ache is attributed generally to the following causes, viz. Exposure to the action of the air and pressure on the nerve of a decayed tooth, which, if too long neglected, is attended by inflammation in the gums; *rheumatic* pain in the gums; *sympathetic* affection in the circumjacent parts of the jaws; denudation or exposure of the smaller vessels round the neck of the tooth towards the gum: and there is also a tooth-ache occasioned by a partial pressure upon a tooth in contact with an opposite one. Children of

about three or four years old are frequently subject to inflammatory tooth-ache, which is generally occasioned by a decay on the interstices or betwixt the two last temporary double tooth in the lower jaw, where some lodgement of food or seeds of fruit has been made during the process of mastication.

In the year 1798, I was called out of a sound sleep at two o'clock in the morning, to attend a boy about four years old, whom I found in a dangerous state, from a violent inflammation on one side of his lower jaw, under the two temporary double teeth. He had suffered for several days, and was attended by some medical gentlemen. When I saw him his pulse was very high, with much fever, and he had been in convulsions; and was at one time so much exhausted that those who were with him thought the little sufferer had breathed his last. On examining his jaw, I observed there was matter formed under both temporary double teeth, but not

in a state for suppuration or discharge. I discovered a decay between the teeth, and thought it expedient to draw the last double tooth, which was a difficult operation, and distressing. After it was performed, I ordered the little patient to be held in a posture convenient for the discharge from his mouth, which was at one time considerable, and in the space of ten minutes the child revived so much as to understand clearly that he would soon get well, if he would wash his mouth with warm milk and water, which was so pleasing to the little fellow that he readily complied. To this treatment I attended myself upwards of half an hour, during which time a favourable change was visible, and the quickness of pulse and the fever abated.

On examining the tooth that was drawn, I discovered a deep cavity and a kernel of a roasted apple in it, a favourite food for his supper: this appeared to have been

the cause of the inflammation. In consequence of his having been reduced to a delicate state of health, I requested the attention of his medical friends, and the boy perfectly recovered in the space of ten days. Hence, it is evident, that the treatment I recommended for cleaning children's teeth after the completion of their temporary teeth, mentioned in chapter 5, p. 28, would prevent the formation of a decay and other dangerous consequences.

A decay in the centre, or on the grinding surface of a child's temporary double tooth, should be stopped with either gold or tinfoil, as it will prevent a lodgement, and thereby preserve the teeth until the proper time of shedding them takes place. Where there is a decay between the two temporary double teeth, where a stopping cannot be effected, and it is too premature to extract the tooth, let the decayed part be filed asunder pretty wide, to enable the nurse or the child to have

easy access for the purpose of keeping it clean morning and evening. This will prove of infinite service, and will at the same time establish that method of treatment so essentially necessary for the preservation of the second or permanent set of teeth. Inflammatory tooth-ache is not confined to children, but is common to persons in all stages of life, and is also frequently occasioned by a pressure of various kinds on the nerve of a diseased tooth, or by sudden exposure to cold, such as from a draught of cold air, cutting the hair, changing dresses carelessly in cold and damp weather; all of which should be carefully guarded against by those persons of delicate constitution subject to the tooth-ache.

The remedy I have generally found successful in my practice in relieving a tooth-ache, where the gums are inflamed, is as follows: clean the cavity well with a soft tooth-brush, at first dipped frequently in a

small quantity of lotion made warm ; wash the mouth copiously with warm water, particularly on the part affected, of such temperature as not to make the teeth too susceptible of cold. Let this treatment be repeated twice a day for several days, until the inflammation or fulness of the stagnated humours in the gums has subsided, to enable the dentist to examine the defective parts with more precision, and to judge whether there would be a fair chance, with advantage to the patient, of preserving the tooth according to the methods recommended in the preceding chapters. But should the operator, on mature consideration, judge that no remedy could be attempted with any hope of success, and the patient's teeth appear too much crowded, which is frequently the case in young persons ; under such circumstances it is advisable to extract the defective tooth, and where young persons teeth are too closely pressing together (should it even not be an aching one), as the vacancy where it is ne-

cessary the tooth should be drawn, will close up in a short space of time by the gradual approach and pressure of the adjoining teeth towards the front.

Of Rheumatic Tooth-Ache.

MANY persons subject to pain in the teeth and gums attribute it to rheumatism in the head or face. In those who have consulted me on this subject I have frequently found their appellation erroneous, and that a defective tooth or diseased gums (at least in nineteen out of twenty cases) was the cause of the complaint: the remedy and treatment best calculated is that recommended in the preceding chapter.

Of Sympathetic Tooth-Ache.

It frequently happens that a pain of one decayed tooth is transmitted to another on the opposite side of the jaw, where no defect is visible nor even exists. I have known many persons who have been deprived of

sound and useful teeth by applying to ignorant operators, whose chief aim was the gain of a fee, and have boasted of their dexterity in extracting any tooth in a twinkling of an eye, whilst a rational and experienced dentist would examine deliberately the case, and question his patient on the subject until reason and experience guide him to the offending spot. Similar circumstances frequently occurred in my practice, and in many instances the defective part had proved a fit subject for preservation.

Of the Tooth-Ache by Denudation.

REFER to page 62, where I have clearly proved the cause of the disease; an effectual method of prevention; and various remedies, if the disease has been suffered to advance in its destructive progress.

CHAPTER XVI.

Of the Tooth-Ache, occasioned by a partial pressure, in contact from an opposite tooth. Refer to page 97, case and remedy.

REMARKABLE instance of a sudden and violent inflammation and tooth-ache, between the small and in the first large double tooth on the left side of the upper jaw :

In October, 1798, a young lady at the Government House, near Plymouth Dock, was suddenly attacked with a violent tooth-ache and inflammation half an hour after dinner, and about ten days after my leaving that part of the country on my return to Bath. The late Dr. Gage, of the Royal Hospital, was sent for, who pronounced it an attack of

rheumatism in her face, and ordered the application of external emollients, which produced an enormous swelling. Every medical attention was paid without relieving the pain, which continued at intervals most excruciating. Dr. Gage advised the lady to have the first large double tooth extracted : to this the lady's parents and she herself objected. As I had been in the habit of attending the family, and it was known and remarked that her teeth were perfectly sound, beautiful, and free from any defect, and as the pain did not abate for some days, the mother of the young lady determined to take her daughter to Bath. Soon after their arrival I saw her, and was sorry to see her in such a deplorable state. The swelling was enormous ; the skin on the surface of the outside of her cheek, of a crimson colour, and wore an alarming aspect. On examining her mouth, and passing my finger gently over the part of the gum where the seat of the pain was, I discovered something pointed ; and on further examination, I

was convinced that it was the cause of the inflammation. It was a fish-bone, forced into the gum accidentally in eating. Caution appeared necessary to extricate it effectually from its perilous situation; for should any part of it remain deep in the gum, it would only protract the disease and danger until the absorption could destroy the remaining part of the bone. I scarified the gum near the place where the bone entered, but the discharge was not so copious as I wished to see. The bone entered the gum between the second small and first large double tooth: the point of it went upwards in the interstice between both teeth, and formed matter towards the part where the jaw widens. On introducing a pointed lancet between the teeth, I distinctly felt the bone against the point of my lancet, and as there was danger of dividing it, and having ascertained the exact direction and situation, it was expedient to extract it immediately on the part where it entered. The gum at

this time, in consequence of the treatment I made use of, having relaxed, I was enabled to take hold of the thick end of the bone with a small pair of plyers, covered with winding thread, in order to prevent as much as possible breaking the end; and thus by gentle means following the natural curvation of the fish-bone, I succeeded in getting it out entirely. The bone was about an inch in length, and was of a red piper, generally esteemed at that season a delicate fish, and in great abundance in that part of the country. The bone had lodged in the gum seven days, and absorption began, as was visible, on the extremity of the thin end. The obstruction being now removed, I introduced a sharp-pointed lancet from the gum between the teeth, where the bone came out, as far as it could be admitted, perforating into the cavity of the jaw, where a large quantity of matter had collected; and no sooner was the incision made, than the discharge was most abundant; and after the necessary treatment

was attended to for near an hour, a dossil of lint was dipped in the preservative lotion, made warm and kept in the cavity, and changed twice a day until the discharge had subsided. The late Dr. Parry attended to the state of the lady's health, and she perfectly recovered in the space of ten days.

In 1803, the same family became residents in Green Park Buildings, in this city, where I had an opportunity of inspecting the lady's teeth for several years, and they continued in excellent condition ever after.

A tooth-ache, arising from exposure of a nerve of a decayed tooth in adults, has frequently been relieved by the following application, and without previous treatment and attention, as mentioned hereafter, viz. Let the cavity of the aching tooth be carefully and gently cleaned with a soft tooth-brush, dipped in a small quantity of the preservative lotion, made warm; after which let the cavity

be made dry and free from moisture or saliva : take a little lint or cotton soaked in anodyne tincture, or in tincture of pellitory of Spain ; apply it to the aching cavity, and with the finger, moistened in either of these medicines, rub the gum with gentle pressure on the surface of the part affected. The use of essential oils of thyme, cinnamon, cloves, &c. applied on a little cotton into the cavity of an aching tooth, has often proved successful.

There are still a great variety of other cases of tooth-aches, and various other applications of remedies, but as they are too complicated to be of real utility to the general reader, it must be left to the judgment of a prudent operator.

CHAPTER XVIII.

Deep-seated Abscesses and Gum Boils, and Tooth-Ache arising from them.

THESE diseases frequently attack sound teeth as well as decayed ones; and, according to the opinion of some eminent writers on this subject, no cause of the above disorders has been sufficiently demonstrated, nor has any mode of treatment been suggested to prevent, to remedy, or to effect a cure. Nay, extraction of sound teeth has been recommended; and hence patients who thus suffer, are frequently deprived of a sound and useful tooth, which would have proved of essential service during life.

It is certain that Nature exhibits great varieties in the formation of our teeth. Not only the bony substance differs materially from those in other parts of our frames, but they also vary individually in size, deformities, and distortions. The roots or fangs of the teeth differ in most subjects exceedingly, and are, as I am convinced by experience, the cause of deep-seated abscesses, swellings, and tooth-aches.

The three roots of the two large double teeth in adults, on each side of the upper jaw, are triangular; but when distorted or deformed in shape, are liable to cause deep-seated inflammation under the fangs in the jaw-bone: two of the roots towards the cheek, and the third root, as may be observed in general practice, being some time considerably longer than their neighbours, extend towards the roof of the inner palate of the mouth. The extremity on the inside root is frequently

sharp and pointed, and pierces deeper in its socket ; an unequal pressure in mastication, from a protuberance of an opposite tooth in contact, is thus often the cause of deep-seated abscesses, swelling in the jaws, and extraordinary pain.

The subject just described, is corroborated by a particular case which occurred in my practice a few years since. In 1817, a young gentleman of Cambridge University had been attacked with a violent pain on the right side of his upper teeth: he was advised by the medical gentleman to have one of his large teeth extracted ; but as I inspected his teeth a short time before, he informed me of his situation. My advice was that he should be cautious of getting a tooth drawn, unless a proper cause was ascertained ; and as the pain and swelled face continued increasing, he determined to come to Bath for the purpose. His journey was hazardous and painful. On his arrival, his face was violently inflamed. I could not

discover at first any defect in the tooth, but soon observed that his suffering proceeded from an irregular pressure, a protuberance of an opposite tooth. I immediately reduced the protuberance with a file: the pain instantly ceased, and the swelling subsided in a few days. This gentleman resides in this city every season, and it is pleasing to observe that his tooth remains perfectly easy and sound.

Where the roots of the teeth are of a parallel form, they are not liable to the diseases above mentioned. All single-rooted teeth, but more particularly the four upper front teeth, are also liable to these diseases from the same cause, namely, a partial pressure from an opposite tooth, piercing beyond its depth; but with proper attention in due time, and under the care of a skilful dentist, who is able to trace the real cause of the disease, a cure may easily be effected and much mischief prevented.

CHAPTER XIX.

Of Thickened and Callous Gums.

A callous or thickness of the gums has an unpleasant appearance, and is generally observed among persons unacquainted with the art of keeping the teeth clean and healthy. If too long neglected, a redundancy of stagnated humours, through the numerous fibrous vessels, acquires a formidable and cancerous disposition, or ossification sometimes occurs. I have frequently performed operations for reducing cancerous and ossified excrescences from the upper and under gums, which proved exceedingly difficult; where no knife or scissors would cut through the ossified fibres, but

strong nippers, formed for the purpose, were used. In reducing callous or cancerous excrescences, the operator should be cautious of an hæmorrhage, and be provided with styptics: the active cautery may also be required to be applied, to stop the violent bleeding.

An effectual Method of preventing the above unpleasant and dangerous Disease.

The symptoms at an early stage of the above disease are, the gums appear thick and protuberant all round the neck of the teeth, and there is a constant itching and throbbing sensation, sometimes on all parts of both upper and under jaws, and sometimes in different parts of the gums. The mode of treatment I have at all times found to be successful is as follows, viz. Let leeches be applied on the part most affected, one only at a time, as the

patient would be inconvenienced if more than one is put on at once—the evening after the tea hour is most suitable; repeat one leech three successive evenings on the thickest part of the gum, and when the orifices made by the leeches are perfectly healed and capable of bearing the friction of a tooth-brush, not too hard at first, a fine lancet (I mean a lancet in good condition) is to be passed on the interstices of the teeth, pretty deep into the gums, and then brushed with the preservative lotion made warm; the upper gum brushed downwards and the lower upwards; keeping the mouth a small space open while this treatment is performed with gentle pressure. This is to be repeated two or three times a day for several days: the lancing of the gums should also be repeated frequently. It is of material consequence that the dentist should understand thoroughly the method of giving proper direction to his patients, and inspect the application of the preservative lotion until

the patient acquires perfectly the method of using it ; for unless this particular mode of treatment be strictly attended to, the disease, from a disposition in the habit, would be liable to relapse into its destructive course.

In 1818, a young lady applied to me, about twenty-five years old, suffering constantly throbbing, itching, and bleeding of her gums on the slightest touch. On examining her mouth, there appeared considerable thickness and formation of a callous on the right side of her upper gums, over the large and two small double teeth. The lady informed me she had consulted a dentist on the subject, who performed several operations about four months previous to my seeing her, but she felt the disorder rather increased ; and as I considered that her case would require particular attention for some time, I asked her whether she resided in Bath ? She replied

she lived seven miles distant, and would come in as often as I wished to see her. I advised her to apply one leech the same evening on the part of the gum most affected, and to come to me on the third day. I attended her three times a week for a fortnight, afterwards once a week for about six more; during which time she acquired that expertness in the method of treatment so essentially necessary to disperse the accumulation, and to restore a proper circulation to the vessels of the gums. The disorder was subdued and a perfect cure effected. The lady still resides in the same place, and I have frequent opportunities of seeing her, and I am happy to state there is not the slightest appearance of a relapse.

In most diseases incident to the teeth and gums; but more particularly such as may affect more immediately the upper and under front teeth, which are of greater importance for articulation and appearance, whether there

is decay on the lateral part of the enamel round the neck of the teeth or the interstices, or where the teeth appear loose in consequence of a fulness or overcharge of humours in the gums, it is gratifying to be able to state that a system may be established, and a proper mode of treatment in using the preservative lotion, which will effectually remedy and cure them.

CHAPTER XX.

Of Deformed or Distorted Teeth.

NOTWITHSTANDING the methods of treatment which have been recommended to guard and prevent deformities and distortion in the growth of young persons' teeth, new cases are frequently brought to me from various parts of the country, showing, that childrens' teeth are not sufficiently attended to by parents or friends who ought to feel an interest in giving timely attention. In many instances where deformities and distortion may have been fixed, remedies are invented and brought to perfection, through long practice and experience, which restore them to regular order by placing, judiciously, gold plates or shields in such parts of the teeth as will facilitate the

object required. In this undertaking a dentist of skill and attention should be consulted, for those friends interested on the part of the patient not being sufficiently skilled in the science, may not be aware of the time, inconvenience, and expense they may incur. To obviate disappointment, it has been an invariable rule in my practice, to inform the patient or the party the time the operation may take, the amount of the expense, and its probable result. An attentive examination of the state of the mouth and teeth should be the first object; the age of the patient; whether any of the shedding teeth are still remaining in any part of the upper or under jaws, where new ones will supply their places; and the dentist should decidedly settle his plans which of the teeth would require to be extracted, in order to remove such obstacles as may appear to obstruct the success of his design. Impressions of both upper and under jaws are to be taken, on the plan of my late practice, which always an-

swered the purpose to the utmost of my expectation. The casting of the models should be deferred till the gums are sufficiently settled after the taking out any teeth, that it may enable the patient to wear the shield with perfect ease and safety. Daily and frequent inspection, with attention, is indispensably necessary to regulate or alter the gold plate, as circumstances may direct; and to prevent irritation, to which the gums would be liable during the time of wearing the shield, the constant use of the preservative lotion, made warm, should be attended to till the operation is completed.

CHAPTER XXI.

Of the utility of Artificial Teeth.

THIS subject will be found of great interest to the public, but more particularly to the higher circle of society—to gentlemen in the pulpit, or at the bar, and to public speakers in general.

All improvements in arts or in science may justly be considered as so many blessings conferred on mankind; and such as materially contribute to the mitigation of suffering, to the preservation of health, and also such as tend to objects of great importance to society in various spheres of life, lay claim to more than ordinary attention.

Artificial teeth in many instances, and in the practice of some eminent dentists, have been applied with considerable success. But notwithstanding the great attention which this important branch has for some years past claimed, many inconveniences and difficulties have continued to arise from irregularities in the formation of the gums, and the intermixture of sound teeth and roots of teeth that may remain in either of the upper and under jaws, that if preserved, would prove useful to the patient for many years. In common practice, many inexperienced operators extract such useful members for the purpose of fastening larger pieces of artificial teeth, with either gold wire or silken ligature, which hastens their destruction,* and creates useless expense. To avoid these difficulties and inconvenience, I paid close attention for many years to facilitate the art of moulding

* See page 72.

and casting models. No expense has been spared by me in obtaining mechanical assistants, who were best acquainted with the branches of casting gold and other metals, till I have succeeded to my utmost satisfaction.

The plan for constructing gold frames and shields, in a manner never before practised, and admirably adapted to avoid every difficulty and inconvenience which frequently arose from the use of artificial teeth, has been universally approved, and found equal to preserve teeth to the patient for a considerable number of years without the use of ligature. A partial pressure from any of the remaining teeth, against those put in, should be carefully prevented by the dentist, to make the new artificial teeth fit properly.

In supplying the loss of our teeth by artificial ones, from the improvement in the

management of placing them, we not merely restore articulation, but also assist greatly in mastication of food and digestion, which is a stimulus to health and cheerfulness.

In recommending artificial teeth, several objects naturally present themselves. Their utility has already been mentioned in the first part of this chapter. If one or two of the upper front teeth are too far decayed, so as to render a remedy abortive, and they are in appearance unsightly and disagreeable, they should not be extracted; for by filing them off close to the gum, in the manner already recommended, natural teeth may be fixed on the roots. In doing this, the natural canal of the nerve in the centre of the root should be prepared for the reception of a convenient gold pivot, screwed on the crown of a suitable natural tooth. The gold wire for making pivots for this purpose should be of a finer quality than usual; for the exact fitting of

a tooth, put into the root, may require to be regulated by gentle bending of the pivot, consequently when made of fine gold, it will more readily yield to the plyers. Should the nerve of the tooth under preparation be susceptible of pain, from the touch of the little instrument, the sensibility of it can easily be destroyed by the actual cautery: * after which no tooth-ache is likely to recur, nor is the operation attended with so much pain as is generally supposed: sometimes the nerve is not at all susceptible of any pain.

This method of putting in natural teeth, ingrafted with a gold pivot, where the roots remain firm, sound, and free from pain, not exceeding two or three, is preferable to any other plan; as I know many who have experienced great comfort in wearing them for a number of years. In reducing the root,

* See page 70.

for the reception of the pivoted tooth, great attention and gentleness is required, to guard against a partial pressure; nor should the pivot be too long, lest it perforate through the extremity of the root.

To fasten artificial or natural teeth on a gold plate, according to the improved plan, let the centre cavities of every root be carefully stopped with the finest gold leaf, prepared for the purpose, before an impression is made for casting models; for the cavities of the roots being thus preserved will prove serviceable for many years, and are thereby rendered more useful in sustaining greater pressure from the under teeth in mastication.

Pieces of artificial teeth are generally made of the large curved tooth or teeth of the hippopotamus, commonly called sea-horse, or sea-cow's teeth; which are obtained, not without difficulty, in remote and obscure

parts of Africa, and on some part of the Banks of the river Nile, in Egypt.*

The sea-horse teeth differ much in size, from one to six or seven pounds weight, and are preferred for artificial teeth on account of their solidity, whiteness, and durability, in which they excel all others we know of: they are generally curved and partly covered with hard enamel, and admit of being made white, and polished beautifully into the form of natural teeth. There is a material difference in the quality of these bones; and, from the great demand for the supply of the different parts of the Continent, they increase in value. Young dentists are advised to be careful in selecting these articles of the finest quality.

* Persons desirous to know the history of these extraordinary animals, will find an interesting account of them in the *Encyclopædia Britannica*, vol. viii. p. 144.

Human teeth may be substituted, and fixed on either gold plates, or rivetted on a frame out of a piece of the sea-horse's tooth; and when well executed, they are preferable to any other in point of beauty and durability. Dentists in an extensive line of practice should also be provided with a large stock of materials, to enable them to make proper choice of the different classes of natural teeth; for every tooth must be placed in its situation on the same side of the mouth where it was originally formed by Nature.

I have seen many natural teeth from the left put in on the right side, which not only gives an awkward appearance to the countenance, but can never answer well: it must be for want of a sufficient assortment, or for want of knowledge of the different classes of natural teeth. Transplanting teeth, taken from the socket of one person and replaced into another person's head immediately after

the diseased tooth has been extracted, was first tried by the celebrated John Hunter, and has, from its repeated failure, gradually sunk into disuse, "and is now, we hope, consigned to its merited oblivion." Its disuse can easily be accounted for by the many melancholy events that occurred at that time.

CHAPTER XXII.

Loss of Teeth by Abrasion.

I HAVE seen many cases of this extraordinary disorder by which the teeth, or part of them, were destroyed at a middle age. It generally occurs in persons in whom the teeth are inclined to be under-hung, and both jaws meet in contact, by which action the edges of the teeth in mastication are worked into deep and irregular cavities. The upper and under front teeth are generally the first that suffer, and in the space of a few years (if its mischievous progress be not prevented) it will spread on the grinding surface of every tooth, whose sharp edges, like cutting chisels, work imperceptibly by constant friction. The crown of

some teeth, wearing thus in deep and irregular cavities, exposes the centre nerves of the teeth to pain, and produces dangerous ulceration on all sides of the tongue.

A few years since, a gentleman, about sixty-five years old, consulted me on the state of his teeth; informing me of his being exceedingly inconvenienced by imperfect mastication of his food, and that he suffered frequently much pain round the teeth near the gums, and also from soreness and ulceration on both sides of his tongue. He applied to a medical person in the country a few months previous to my seeing him, who tried in vain to extract some of his teeth. He furnished him with some chemical electuary to rub his teeth and gums twice a day, assuring him it would cure the tooth-ache and soreness of the gum: but to his great disappointment, after using it two days, his teeth felt unpleasantly on an edge, and more susceptible from cold air. On examining his mouth, I observed that both

his upper and under teeth appeared like a rough saw, most of them worn into deep cavities by abrasion, leaving sharp edges on the surface of almost all his teeth. His gums were in tolerably good condition, and his teeth not subject to collect much tartar, but so firmly rooted in their sockets, that I had reason to apprehend it would be dangerous to attempt drawing any of them to make room for placing artificial teeth to assist in mastication. This gentleman being thus exposed to constant pain and uneasiness, was frequently deprived attending public meetings, where his presence on many occasions was of the utmost importance. I therefore adopted the following mode of treatment. The toothache, occasioned by exposure of the nerve of several of his teeth, was effectually cured by applying an actual cautery, which on all occasions, when judiciously applied, will be found successful. The sharp and rough edges I carefully reduced with proper files, making the surface as smooth as possible; which

operation also prevented soreness in the mouth and ulcers on the tongue. I lanced the gums at different times between the interstices, and with the use of the preservative lotion and convenient tooth-brushes, the fulness of the humours and irritation of the gums subsided. This operation engaged my attention several days, during which time all pain and uneasiness ceased, without the loss of a single root of a tooth. My next object was that of assisting nature in mastication and articulation. I accordingly put in execution a favourite plan of mine, which I had in contemplation, until this opportunity offered, and encouraged my hope of success. I directed two gold beds or shields to be constructed, to cover completely the tender inequalities of all the remainder worn-down teeth, to the stumps close to the gum, supported by gold springs on each side, so admirably contrived, not merely by its aid to assist mastication, but also to enable him to attend all public meet-

ings. This extraordinary piece of mechanism, which, in my opinion (not having seen or heard of during my practice), is the first of the kind ever made, will, I flatter myself, deserve the attention of those gentlemen skilled in the various branches in the practice of dentists.

CHAPTER XXIII.

Of the Necessity of using Tooth-Powder more frequently than usual.

FROM the salivary secretion of the mouth, and the food remaining on the teeth after meals, particularly in weak constitutions, are formed layers of adventitious corroding substances, tending to hasten the decay, and destroy the enamel round the neck of the teeth under the gums, which cause them to become spongy and recede from the teeth: this action goes forward during sleep.

To prevent the formation of this mischievous matter, a method must be acquired

of cleaning the teeth properly, and using tooth-powder more frequently. Should the gums be liable to bleed, on being touched, particularly in persons unacquainted with the proper treatment; the use of the preservative lotion will be found beneficial. In a variety of circumstances it happens, that however efficacious the application of a tooth-powder or lotion may prove, yet the preparatory use of the instrument by a dentist is necessary, in order to remove such obstacles as may oppose its due effect. The ingredients of the tooth-powder and lotion I have for so many years prepared and recommended to my patients, have stood the test, and have generally produced the result expected.

CHAPTER XXIV.

*Of the good Effect of the Use of Tooth-Brushes,
and the Injury done by using them im-
properly.*

THERE are various circumstances connected with our daily habits, however trivial they may appear to some persons who almost suffer them to escape their notice, which, on reflection, will be found of the utmost consequence, and, if applied with attention, greatly contribute to our comfort and health.

Tooth-brushes, properly chosen and applied, are the most useful for the purpose of keeping the teeth and gums clean and healthy; but as the teeth differ in shape, form, and du-

rability, and from the smallness of some persons' mouths, the size and texture should be carefully observed. I have frequently seen persons who have greatly injured their teeth ; nay, many have totally destroyed them, by using tooth-brushes too hard, or ill constructed.

It is in the power of every dentist to impress his wishes on the minds of his young patients, to recommend and regulate such treatment before leaving school, and to direct a proper choice of what may be necessary and useful to them ever after.

CHAPTER XXV.

General Rules.

CHILDREN of four years old should be taught to clean their teeth every morning and evening with a suitable tooth-brush and cold water, and to rinse the mouth after meals, which practice ought to be continued during life. Children of eight years old should use the tooth-powder once a week only, but continue the use of tooth-brushes and cold water as above. Persons at a more advanced time of life, residing in remote parts of the country, who may have neglected the means recommended, are now advised to adopt them; and though the exercise of the tooth-

brush may in some degree feel unpleasant, and make their disordered gums bleed, they need not be alarmed, but proceed with resolution till the humours be discharged, and the teeth and gums recover a sound and wholesome state; to which end it will be necessary to use the lotion every other day, and the tooth-powder once or twice a week, until they have an opportunity of consulting an experienced dentist. Persons subject to a disagreeable taste in the mouth, especially after using mercurial medicines, are advised to follow the rules just mentioned in cleaning the teeth, and afterwards to gargle the mouth and throat with a table-spoonful of the lotion, mixed with the same quantity of warm water; with this rinse the mouth pretty briskly, keeping it in the mouth for a minute or two in the morning and in the evening on going to bed, which will render the breath sweet and pleasant. Unripe fruit is pernicious to children when they are cutting their second teeth: sucking ink out of pens, during the

exercise of writing, should be carefully guarded against: cracking of nuts, or drawing corks with the teeth, should be avoided: hot liquors, ice-creams, &c. should be cautiously used, particularly when the teeth are in a tender state, as extreme heat or cold impedes the circulation of the fluids in the teeth, and are therefore detrimental.

I have thus endeavoured to furnish my friends and the public with information of the proper care and attention the teeth and gums require, founded on long practice and experience, and verified by the general approbation of its beneficial effect.

ERRATA :

Page 91, line 19, for " 1796," read " 1806."

— 105, line 6, for Dr. " Gage," read Dr. " Geach."

FINIS.

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Wood & Cunningham, Printers, Bath.  
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